

GMPR siRNA (m): sc-145650

BACKGROUND

GMPR1 (GMP reductase 1), also known as GMPR or guanosine 5'-monophosphate oxidoreductase 1, is a 345 amino acid member of the IMPDH/GMPR family. GMPR1 catalyzes the irreversible NADPH-dependent reductive deamination of GMP to IMP. GMPR1 is also involved in the conversion of nucleobase, nucleoside and nucleotide derivatives of G to A nucleotides, and maintains the intracellular balance of A and G nucleotides. Existing as a homotrimer, GMPR1 is highly expressed in heart, skeletal muscle and kidney, with lower levels in colon, thymus and peripheral blood leukocyte. The gene encoding GMPR1 maps to human chromosome 6p22.3. Human chromosome 6 contains 170 million base pairs and comprises nearly 6% of the human genome. Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: *Gmpr* (mouse) mapping to 13 A5.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

GMPR siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GMPR shRNA Plasmid (m): sc-145650-SH and GMPR shRNA (m) Lentiviral Particles: sc-145650-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

GMPR siRNA (m) is recommended for the inhibition of GMPR expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GMPR gene expression knockdown using RT-PCR Primer: GMPR (m)-PR: sc-145650-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.